

Notice of Allowability

Application No.

10/722,135

Examiner

Henry S. Hu

Applicant(s)

CALHOUN ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Pre-Amendment of March 22, 2004.
2. ☒ The allowed claim(s) is/are 31-72.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 3-22-2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

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DETAILED ACTION

1. It is noted that this application **10/722,135** filed November 26, 2003 is a **CON** of **09/847,405** filed on 5/3/2001, now US Patent No. 6,682,775. Applicants' **Pre-Amendment** and **IDS** (2 pages) both filed on March 22, 2004 were received. **Claims 1-30 were cancelled, while new Claims 31-72 were added.** Additionally, paragraphs 66, 81 and 104 in specification have been replaced. The Applicants allege that support of newly added Claims 31-72 can be found in the original claims and specification as disclosed on page **10** of Remarks.

CON

In a close examination on current ~~DI~~^{CON} application, the Applicants have already corrected the informalities as pointed out by the Examiner in the parent case. **Claims 31-72 are now pending** with only one independent claim (Claim 31). An action follows.

Allowable Subject Matter

2. Claims 31-72 are allowed.
3. The following is an examiner's statement of reasons for allowance: The above claims 31-72 are allowed over the closest references:

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4. *The limitation of amended parent Claim 31 of present invention relates to a breathable film product comprising: a composition comprising inorganic particulate material with a hydrophobic coating contained thereon, said hydrophobic coating formed from a hydrophobizing surface treatment agent comprising one or more aliphatic carboxylic acids having at least 10 chain carbon atoms, wherein said composition contains less than or equal to about 0.285 % by weight of agglomerates having a diameter less than about 200 μ m but greater than the thickness of the breathable film.*

See other limitations of dependent Claims 32-72.

5. In view of current (CON) claim limitation as “a breathable film product comprising: a composition comprising inorganic particulate material with a hydrophobic coating by a hydrophobizing surface treatment agent comprising one or more aliphatic carboxylic acids having at least 10 chain carbon atoms. The key point is that such a composition contains less than or equal to about 0.285 % by weight of agglomerates having a diameter less than about 200 μ m but greater than the thickness of the breathable film.”

In comparing with the allowed parent case, parent (process of making) Claims 1 and 62 have carried the language of “milling and/or classifying” as well as incorporating the limitation of original Claim 33 as “agglomerated level of below about 0.285% by weight with a diameter of about 44 μ m or above”. In a close examination, the scope for “thickness of the breathable film” has been disclosed in detail on pages 8 and 32 to be at least 5 μ m (see page

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8 at line 6). It is noted that paragraphs 66, 81 and 104 in specification have been replaced for this CON.

6. **The Notice of Allowance filed on August 11, 2003 for its parent application 09/847,405 (which is now US Patent No. 6,682,775) is hereby incorporated here by reference.** In a close examination on the prior art mentioned for the allowed parent case along with further examination and search, the examiner found all the following prior art did not teach the claimed limitation:

Regarding the 102/103 rejection for Claims 1 and 62 (original Claims 31 and 94) in the allowed parent case for process of making, the reference Arai et al. (**US Patent No. 3,803,065**) only discloses the preparation of anti-blocking modified inorganic powder with a range in 0.1-15 μm **by first milling the unmodified inorganic powder** (column 2, line 47-57). Although the average size of modified inorganic powder is overlapping the claimed size as well as the same claimed modifier is used, **there is no additional step of milling and/or classifying after surface modification on inorganic particulate.** The other independent **Claim 94** is similar to parent **Claim 31** but with additional steps of adding filler and shaping to form a film. Therefore, Arai does not teach or fairly suggest the limitations for both Claims 31 and 94 of the parent case as well as the limitation of parent Claim 31 of current CON.

7. In a new search, **US Patent No. 6,106,956 to Heyn et al.** only discloses a breathable extruded polymer film containing a filler material such as calcium carbonate in an amount

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sufficient to increase the water vapor permeability (title; abstract, line 1-5; column 3, line 36-65).

No surface modification with aliphatic carboxylic acids on filler is disclosed or suggested.

EP Patent No. 1,375,579 A1 (which is equivalent to WO 99/61521) to Calhoun et al. (with the same assignee Imerys Minerals) only discloses the preparation of a breathable film comprising a surface treatment agent (aliphatic carboxylic acid with at least 10 carbon atoms) modified inorganic particulate material (abstract, line 1-7). However, the disclosed preparation process does not contain **“milling and/or classifying”** step so as to obtain **“agglomerated level of below about 0.285% by weight with a diameter as specified in current application”**.

Additionally, the present invention has shown in examples along with some comparative examples for making such a breathable film product with a hydrophobic coating on the surface of a specific agglomerate (see pages 33-38 for **examples 1-7** along with its **Table in page 37**). Therefore, all the above-mentioned references, in combination or alone, does not teach or fairly suggest the limitations of present invention.

8. After further examination and search, the examiner found the following prior art did not teach the claimed limitation:

US Patent No. 5,900,310 to Murschall et al. only disclose a heat-sealable, oriented, multilayer polyolefin film using an aliphatic carboxylic acid coated coarse calcium carbonate (3-5 μm) on the first layer, and a second layer with only fine calcium carbonate (1-2.5 μm) (column

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5, line 6-48; abstract, line 1-8). However, Murschall et al. fail to teach using the claimed modified inorganic particulate and the **monolayer architect**.

US Patent No. 4,350,655 to Hoge only discloses a process for producing highly porous thermoplastic films using modified inorganic filler. However, **calcium carbonate is only modified by a fatty acid ester of silicon and titanium**, Hoge thereby fails to teach using the claimed modified inorganic particulate.

US Patent No. 4,263,196 to Schumacher et al. only discloses a process to make highly filled thermoplastic composition with fine particle size filler. However, the acid modifier used to coat calcium carbonate is **an unsaturated acid and is copolymerized with ethylene monomer**. Schumacher et al. thereby fail to teach using the claimed modified inorganic particulate, which needs to be precoated and then admixed with polyethylene.

US Patent No. 5,885,704 to Peiffer et al. only discloses oriented polyolefin film with amorphous polymer with conventional pigment such as **calcium carbonate** (title; column 6, line 44-50). Although Peiffer discloses the mean particle diameter of the pigment is around 0.01-1 μm (column 6, line 37-38), **no modifier is used to modify the pigment**. Therefore, Peiffer does not teach or fairly suggest the limitations of present invention.

9. The two key issue for making such a breathable film product with a hydrophobic coating with a specific agglomerate as: (A) an **agglomerated level is below about 0.285% by weight**

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and (B) with a diameter less than about 200 μm but greater than the thickness of the breathable film, cannot be overcome by any or the combination of the above references, therefore, the present invention is novel.

10. As of the date of this office action, the examiner has not located or identified any reference that can be used singularly or in combination with another reference including the above references to render the present invention anticipated or obvious to one of the ordinary skill in the art. Therefore, the independent and parent **Claim 31** is allowed for the reason listed above. Since the prior art of record fails to teach the present invention, the remaining pending dependent **Claims 32-72** are passed to issue.

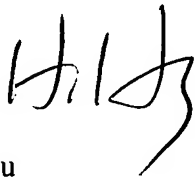
11. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu** whose telephone number is (571) 272-1103. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Henry S. Hu

Patent Examiner, art unit 1713, USPTO

November 22, 2005



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700